

### **REMARKS**

Claims 32-39, 41, 43-56, 58-61 and 63-67 are pending in the application. In the Office Action, the Examiner withdrew claim 56 as directed to a non-elected species, and rejected claims 32-39, 41-55, 58-61 and 63-67 under 35 U.S.C. §102. The specification is objected to. A provisional non-statutory double patenting rejection is set forth.

By this paper, Applicants have addressed all the objections and rejections set forth by the Examiner in the Office Action. The specification has been amended to clarify the meaning of claim 32, and to include the stop member of claim 56. Without conceding that the Examiner has set forth a prima face case of anticipation for each claim, independent claims 32, 41, 51 and 58 have been amended and include limitations not found in the cited references. Claim 39 has been canceled. Claim 49 has been canceled, and its subject matter included in claim 48. Claims 46 and 47 have been canceled, and their subject matter included in independent claim 41. Claim 67 has been canceled, and its subject matter included in independent claim 51. Dependent claims 33, 37, 38, 43-45, 48, 52-53 and 64-66 have also been amended to correct dependency and/or antecedence relative to the amended independent claims. New dependent claims 68-71 have been added, and include no new matter. Support for the new claims may be found in at least paragraph [0087]. Applicants reserve the right to amend the present case or a continuing application to include the subject matter of the canceled claims or canceled limitations.

For at least the following reasons, claims 32-38, 41, 43-45, 48, 50-56, 58-61, 63-66 and 68-71 are believed to be in a condition for allowance.

### **ELECTION/RESTRICTIONS**

Claim 56 has been withdrawn by the Examiner as directed to a non-elected species. The stop member recited in the claim is clearly disclosed in the elected species of Figures 25, 27 and 29-31. MPEP 2163 IIA3a sets forth that "...an applicant may show possession of an invention by disclosure of drawings or structural chemical formulas that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole." It happens that the stop member is also shown in Figures 6-7; in fact it is shown in Figures 6-15, 19, 21, 24, 25, 27, 29-32, 34, 36, 37, 28, and 40-43,

since it is a feature common to many embodiments disclosed in the specification. However, the fact that the stop member is disclosed in multiple figures which may be drawn to other species does not negate the fact that the stop member is shown in the figures (25-31) which include the elected species.

Applicants herewith submit an amendment to the specification which sets forth the stop member in a manner consistent with the terminology in the specification. The amendment is included to provide a written description of a feature already disclosed in the figures, i.e., the stop member. This amendment does not include new matter, because the amendment repeats information contained in paragraph [0036] of the specification. MPEP 2163.06 sets forth that "...information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter." The words of the amendment clearly describe the stop feature seen in Figures 25, 27 and 29-31 without introducing new matter. Since the stop member is already clearly shown in the figures, and the written description is already present in the specification, no new matter is included with the amendment.

Applicants respectfully request reinstatement of withdrawn claim 56, since support for the claim is found both in the figures and in the specification as amended.

#### OBJECTION TO THE SPECIFICATION

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter, specifically for the term orientation feature. Claim 41 has been amended and no longer includes the term orientation feature. Withdrawal of the objection is respectfully requested.

#### DOUBLE PATENTING

Applicants note the provisional nonstatutory double patenting rejection of claims 62-67 as being unpatentable over all claims of copending Application no. 11/559,215. At such time as claims in either application are patented, the rejection will be addressed.

CLAIM REJECTIONS – 35 U.S.C. §102 TO ZUCHERMAN

Claims 32-39, 41, 43-46 and 48-55 are rejected under 35 U.S.C. 102 as anticipated by U.S. Patent No. 7,320,707 to Zucherman et al., hereinafter known as ‘Zucherman’.

Independent claim 32 now recites, *inter alia*, the limitations of an articulating structure comprising first and second articulating surfaces positioned between the first and second bone engagement surfaces, one of the first and second articulating surfaces comprising a constantly sloped section to provide a correction angle when the prosthesis is in a neutral position, the constantly sloped section crossing the coronal plane of the first and second vertebral bodies, the articulating structure further comprising third and fourth articulating surfaces positioned between the first and second bone engagement surfaces, each of the third and fourth articulating surfaces comprising a planar portion, the planar portions positioned to be in surface contact with one another when the prosthesis is in the neutral position. Support for the claim amendment is found in at least paragraph [0025], amended paragraph [0122], paragraph [0123] and Figures 30 and 31. Applicants point out that, as amended, paragraph [0122] is identical in content to amended paragraph [0138] in related application serial no. 11/559,215.

Zucherman does not disclose an articulating structure with the claimed limitations. Specifically, Zucherman does not disclose at least: an articulating structure including third and fourth articulating surface each comprising a planar portion, the planar portions positioned to be in surface contact with one another when the prosthesis is in the neutral position.

Independent claim 41 has been amended to include the limitations of dependent claims 46 and 47 and other limitations. Claim 41 now recites, *inter alia*, a nucleus positioned between the first and second bone engagement surfaces, the nucleus having a first articular surface with a first straight section, a planar third surface formed on the nucleus opposite the first articular surface, the first straight section having a constant non-zero slope to provide a corrective angle; and a second articular surface that articulates with the first articular surface, the second articular surface shaped to mate with the constantly sloped first straight section in the neutral position to urge the first and second bone engaging surfaces toward an orientation of the first bone engagement surface relative to the second bone engagement surface that provides a deformity correction across at least one axis. Support for the claim amendment is found in at least paragraphs [0122-0123] of the specification,

and Figures 25 and 31.

Zucherman does not disclose a nucleus with such limitations. Zucherman does not disclose at least a nucleus with a first articular surface and a planar third surface opposite the first articular surface; the nucleus disclosed by Zucherman has no planar surfaces. Since no planar surface on the nucleus is disclosed Zucherman also does not disclose the first articular surface having a first straight section which has a constant non-zero slope with respect to the planar surface on the nucleus to provide a corrective angle. Furthermore, Zucherman does not disclose such a first articular surface which mates with a second articular surface in the neutral position to urge the bone engagement surfaces toward an orientation that provides a deformity correction.

Independent claim 51 now recites, *inter alia*, a nucleus positionable between the first and second end plates, the nucleus comprising a second articular surface that articulates with the first articular surface, the second articular surface comprising a first straight section sloping between and contiguous with first and second convexly curved sections of the second articular surface, the nucleus further comprising a planar fourth articular surface opposite the second articular surface, wherein the height of the nucleus between the second articular surface and the fourth articular surface at the junction of the first convexly curved section and the straight section is greater than the height of the nucleus between the second articular surface and the fourth articular surface at the junction of the second convexly curved section and the straight section. Support for the claim amendment is found in at least paragraphs [0025-0026], [0121-0123] of the specification, and Figures 25 and 31.

Zucherman does not disclose a nucleus with such limitations. The nucleus disclosed by Zucherman does not have an articular surface comprising a first straight section sloping between and contiguous with first and second convexly curved sections of the articular surface. Furthermore, Zucherman does not disclose such a nucleus further including a height difference, between the articular surface and an opposing articular surface on the nucleus, in which the height of the nucleus between the opposing surfaces is greater at the junction of the articular surface with the first convexly curved section than at the junction of the articular surface with the second convexly curved section.

Since all limitations of the independent claims 32, 41 and 51 are not disclosed by the reference, the reference fails to anticipate the claims. Claims 33-38 depend from independent claim 32 and are therefore also not anticipated. Claim 39 has been canceled. Claims 43-44, 48 and 50 depend from independent claim 41 and are therefore also not anticipated. Claims 46 and 47 have been canceled, and their subject matter included in independent claim 41. Claim 49 has been canceled, and its subject matter included in claim 48. Claims 52-56 depend from independent claim 51 and are therefore also not anticipated. Withdrawal of the rejection is respectfully requested.

#### CLAIM REJECTIONS – 35 U.S.C. §102 TO MARIK

Claims 32-39, 41, 43-55, 58-61 and 63-67 are rejected under 35 U.S.C. 102 as anticipated by U.S. Patent Application Publication No. 2005/0216086 to Marik et al., hereinafter known as 'Marik'.

Independent claim 32 now recites, *inter alia*, the limitations of an articulating structure comprising first and second articulating surfaces positioned between the first and second bone engagement surfaces, one of the first and second articulating surfaces comprising a constantly sloped section to provide a correction angle when the prosthesis is in a neutral position, the constantly sloped section crossing the coronal plane of the first and second vertebral bodies, the articulating structure further comprising third and fourth articulating surfaces positioned between the first and second bone engagement surfaces, each of the third and fourth articulating surfaces comprising a planar portion, the planar portions positioned to be in surface contact with one another when the prosthesis is in the neutral position.

Marik does not disclose all the limitations of the amended claim. Specifically, Marik does not disclose at least an articulating surface with a constantly sloped section to provide a correction angle when the prosthesis is in a neutral position, the constantly sloped section crossing the coronal plane of the first and second vertebral bodies. The articulating surfaces disclosed by Marik are rounded or domed, having variable slopes; no articulating surface with a constantly sloped section to provide a correction angle when the prosthesis is in a neutral position is provided. Marik also does not disclose the limitations of third and fourth articulating surfaces each comprising a planar portion, the planar portions positioned to be in surface contact with one another when the prosthesis is in the neutral position.

As set forth above, independent claim 41 now recites, *inter alia*, a nucleus positioned between the first and second bone engagement surfaces, the nucleus having a first articular surface with a first straight section, a planar third surface formed on the nucleus opposite the first articular surface, the first straight section having a constant non-zero slope to provide a corrective angle; and a second articular surface that articulates with the first articular surface, the second articular surface shaped to mate with the constantly sloped first straight section in the neutral position to urge the first and second bone engaging surfaces toward an orientation of the first bone engagement surface relative to the second bone engagement surface that provides a deformity correction across at least one axis.

Marik does not disclose all the limitations of the amended claim. Specifically, Marik does not disclose at least a nucleus having a first articular surface with a first straight section, the first straight section having a constant non-zero slope to provide a corrective angle. Instead, the nucleus disclosed by Marik has a variable curvature and/or no slope, but not a constant non-zero slope. Further, Marik does not disclose such a constant non-zero sloped first straight section which mates with a second articular surface in the neutral position to urge bone engaging surfaces toward a deformity correcting orientation. An example of this neutral position is shown in Figure 31 and described in paragraph [0123] of Applicant's disclosure. In contrast, the neutral position shown and described in paragraph [0068] with reference to Figure 27 of Marik does not include an articulating surface with a first straight section having a constant non-zero slope, which mates with a second articular surface and provides a deformity correction across at least one axis.

As set forth above, independent claim 51 now recites, *inter alia*, a nucleus comprising a second articular surface, the second articular surface comprising a first straight section sloping between and contiguous with first and second convexly curved sections of the second articular surface, the nucleus further comprising a planar fourth articular surface opposite the second articular surface, wherein the height of the nucleus between the second articular surface and the fourth articular surface at the junction of the first convexly curved section and the straight section is greater than the height of the nucleus between the second articular surface and the fourth articular surface at the junction of the second convexly curved section and the straight section.

Marik does not disclose a nucleus with second and fourth articular surfaces having the disclosed limitations. Marik discloses no nucleus with an articular surface with a straight section sloping between and contiguous with two convexly curved sections of the articular surface. Marik further does not disclose such nucleus with the added limitation that the height of the nucleus (between the second articular surface and the planar fourth articular surface) at the junction of the straight section with one of the curved sections is greater than the height of the nucleus at the junction of the straight section with the other curved section.

Independent claim 58 now recites, *inter alia*, the limitations of an endplate with first articular surface comprising a planar portion which intersects a perimeter wall of the endplate, a straight portion in at least one cross section, and a pair of individual projections which protrude from the planar portion on opposing sides of the straight portion.

Marik does not disclose at least an endplate with an articular surface having a planar portion which intersects a perimeter wall of the endplate, nor a pair of individual projections which protrude from the planar portion on opposing sides of a straight portion. Further, Marik does not disclose such an articular surface which articulates with an articular surface on a nucleus, the nuclear articular surface having a first straight section sloping between and contiguous with first and second curved sections of the nuclear articular surface.

Since all limitations of the independent claims 32, 41, 51 and 58 are not disclosed by the reference, the reference fails to anticipate the claims. Claims 33-38 and 64-65 depend from independent claim 32 and are therefore also not anticipated. Claim 39 has been canceled. Claims 43-45, 48, 50 and 66 depend from independent claim 41 and are therefore also not anticipated. Claims 46 and 47 have been canceled, and their subject matter included in independent claim 41. Claim 49 has been canceled, and its subject matter included in claim 48. Claims 52-56 depend from independent claim 51 and are therefore also not anticipated. Claim 67 has been canceled. Claims 60-61 and 63 depend from independent claim 58 and are therefore also not anticipated. Withdrawal of the rejection is respectfully requested.

## CONCLUSION

By this paper, Applicants have made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action. For the foregoing reasons and for other reasons clearly apparent, Applicants assert that claims 32-38, 41, 43-45, 48, 50-56, 58-61, 63-66, and 68-71 are in condition for allowance. If there are any remaining issues preventing mailing of a Notice of Allowance, the Examiner is respectfully requested to contact the undersigned.

Dated this 6<sup>th</sup> day of December 2010.

Respectfully submitted,

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